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U.S. Bureau of Foreign and Domestic Commerce

Production, sales and stock on hand of ensilage..

Washington

1929

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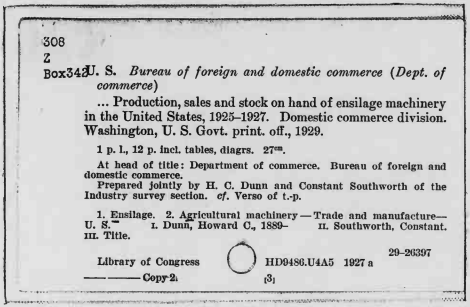

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DEPARTMENT OF COMMERCE

BUREAU OF FOREIGN AND DOMESTIC COMMERCE

MAY 6 - 1929

PRODUCTION, SALES AND STOCK ON HAND OF ENSILAGE MACHINERY IN THE UNITED STATES, 1925-1927

DOMESTIC COMMERCE DIVISION

308
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Box 342

UNITED STATES
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WASHINGTON : 1929

INTRODUCTION

An opportunity for simplification of products in the ensilage-machinery industry is indicated in this analysis of the trends of production and sales of ensilage cutters over the 3-year period 1925-1927. It is disclosed that 5 out of 17 sizes accounted for 80 per cent of the total ensilage-cutter sales of the concerns surveyed. These establishments generally strengthened their position with respect to the market for their products during the 3-year period. While operating at only 53 per cent of capacity, these ensilage-machinery manufacturers increased production 48 per cent and sales 35 per cent. Their stock on hand decreased 58 per cent during the same period. Furthermore, the ratio of stock on hand at the end of 1927 to sales during the year was less than one-third of the ratio for 1925, and the ratio of stock to production had declined even more.

The data for production, sales and stocks are correlated for each of the three years and by sizes of ensilage cutters in the succeeding pages of this study, which is the first of a series of surveys of individual industries being made by the Domestic Commerce Division at the request and with the cooperation of the industries concerned. These studies are designed to provide information which may point the way to constructive programs. Each manufacturer is afforded some basis for measuring himself in relation to his industry. Thereby he may obtain suggestions for profitable research into the details of his particular problems.

This report on the ensilage-machinery industry was made at the request and with the cooperation of the Ensilage Machinery Department of the National Association of Farm Equipment Manufacturers. The survey was conducted by H. C. Dunn, Chief of the Industry Survey Section, Domestic Commerce Division, with the cooperation of the Agricultural Implements Division, both of the Bureau of Foreign and Domestic Commerce. The report itself was prepared jointly by H. C. Dunn and Constant Southworth of the Industry Survey Section.

Jan. 25, 1932 DA HEC

PRODUCTION, SALES, AND STOCK ON HAND OF ENSILAGE MACHINERY IN THE UNITED STATES, 1925-1927

Purpose of Survey.

The survey aims to show the correlation between production, sales, and stock on hand of ensilage machinery, and to reveal past and present trends in consumption of, and demand for, particular sizes, with a view to providing an adequate factual basis for evolving policies which may bring about the elimination of avoidable waste.

Proportion of Industry Represented in Survey.

Nine manufacturers of ensilage machinery were personally solicited for the data desired. It was estimated by the trade that seven of these nine represented more than 80 per cent of the production of ensilage cutters in the United States. Six of the nine furnished information in such form that it could be used in the survey. The business of these six manufacturers in the three years represented the following proportions of the business of all the concerns covered by the annual farm-equipment survey of the Bureau of the Census.

	1925	1926	1927
		(Per cent)	
By number of establishments	24	23	25
By number of ensilage cutters manufactured	39	43	55
By number of ensilage cutters sold	44	52	61 (a)

(a) This figure is slightly larger than it should be, because the figure for the sales of the whole industry which was used to get this percentage did not include sales for export, which were included in the figures used for the sales of the whole industry in 1925 and 1926.

The conclusion is that during the three years these six manufacturers accounted for about half the business done by the whole industry, and that the proportion increased from a little over 40 per cent in 1925 to nearly 60 per cent in 1927.

Analysis of Tables.

Tables 1 to 4 summarize the data on production, sales, and stock on hand obtained from the six manufacturers, and show the relations of the three factors to each other. Table 5 shows production and sales of both ensilage cutters and silos in the same years for all the manufacturers covered by the annual farm-equipment survey made by the Bureau of the Census.

Table 1 shows that the total production of the six manufacturers increased from 3,403 ensilage cutters in 1925 to 3,839 in 1926 and to 5,044 in 1927. Total sales increased from 3,885 in 1925 to 4,530 in 1926 and 5,221 in 1927. On the other hand, total stock on hand at the end of the year decreased from 1,488 in 1925 to 797 in 1926 and 620 in 1927. Of course, the figures for individual sizes varied a great deal, as is brought out below.

The figures for "all sizes" in Tables 2 and 3 considered together bring out an important fact, namely, that during the three-year period the six manufacturers in question were getting into a stronger position as regards the market as a whole. Stock on hand in 1926 and 1927 was 46 and 58 per cent, respectively, less than the 1925 figures, while production increased by 48 per cent between 1925 and 1927 and sales by 35 per cent. The result was that in 1927 the ratio of stock on hand at the end of the year to sales during the year was less than a third what it was in 1925. The ratio of stock on hand to production had fallen to slightly more than one-fourth of the 1925 figure.

However, the ratio of production to sales was higher in 1927 than in either 1925 or 1926 -- 97 per cent compared with 88 and 85 per cent, respectively. This may mean that the 1928 figures, when available, in spite of the fact that sales still remain slightly in excess of production, will show an increase over 1927 in the ratio of stock on hand to production and to sales.

Figure 1, which shows diagrammatically the totals by years in Table 1, also helps to make these various relations clearer.

Of course, the figures representing relations for all sizes, important as they are in showing the general condition of the industry, are an abstraction. It is necessary to consider carefully the figures for individual sizes of ensilage cutters. Tables 2 and 3 show extremely great variations among different sizes in the relations between production, sales, and stock on hand. For instance, Table 3 shows that although in 1927 the stock on hand of 10-inch, 12-inch, and 12-3/8-inch cutters was only 1 per cent of the sales; the stock on hand of 18-inch and 19-inch cutters was twice the sales; yet in 1926 the stock on hand of 10-inch, 12-inch, and 12-3/8-inch cutters was 50 per cent of the sales, while the stock on hand of 18 inch and 19-inch cutters was only 4 per cent of the sales.

Figures 2 to 6 show production, sales, and stock on hand for the six most important sizes separately, bringing out diagrammatically the relations for these sizes shown in Tables 2 and 3. Figure 2 shows that sales of the 11-inch size increased in 1926 and again in 1927. Production increased even faster. Stock on hand decreased. As a result, the ratio of production to sales increased somewhat, while the ratios of stock on hand both to production and to sales greatly decreased. Stock on hand was only a small percentage of sales or of production in any of the three years. Figures 3 and 4 show much the same tendencies for the 13-inch and 16-inch sizes, except that sales increased faster than production. In the case of 14-inch and 14-1/3 inch cutters (lumped), as shown in Figure 5, production decreased in 1926 as compared with 1925. Production in 1927 was only 47 per cent of production in 1925. Sales increased slightly in 1926, but in 1927 fell off to less than half the 1925 sales. Stock on hand was somewhat more than a fourth of sales

in 1925, but fell off to almost nothing in 1926 and 1927. The relations for the 9-inch size, shown in Figure 6, were entirely different from the relations for the other sizes discussed. Production of 9-inch cutters was only 27 per cent of sales in 1925, increased to 87 per cent of sales in 1926, and decreased to 20 per cent in 1927. Stock on hand was larger than either sales or production in 1925, and about the same as production in 1926, but in 1927 decreased to almost nothing.

Figure 7 brings out the wide variations in the ratios of stock on hand to sales for the separate sizes in all three years.

Table 4 shows that there was great variation among the different sizes of cutters in the amounts sold. The 11-inch and 13-inch sizes each averaged just below 30 per cent of the total sold. Five sizes, 11-inch, 13-inch, 16-inch, 14-inch, and 14-1/3 inch, comprised practically 80 per cent of the total sold. This disparity in amounts sold suggests the possibility of simplification and the consequent avoidance of waste, by restricting manufacture of standard lines for stock to the sizes in greatest demand, and manufacturing as "specials" the sizes in least demand. This seems even more desirable when one considers that the sizes of which fewest were sold in 1927 were the ones of which the stock on hand in the same year bore the largest ratio to both production and sales. (See Table 3.)

Table 5, made up from Bureau of Census figures, applies to the whole ensilage-cutter industry. It shows that 1926 and 1927 production (by numbers of cutters) increased by 1 and 5 per cent, respectively, over 1925 production. These figures compare with corresponding figures of increase of 13 and 48 per cent for the six manufacturers covered by this survey. (See Table 2.) Thus the figures for all manufacturers agree with the figures for six manufacturers in that there was an increase in production between 1925 and 1927, even though they show a much smaller increase. It is quite different with the Census figures for sales, which show 2 and 4 per cent decreases for 1926 and 1927 compared with 1925, while the figures

of this survey show 17 and 35 per cent increases. (a)

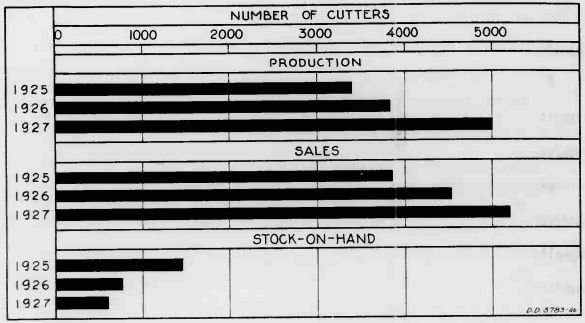
Table 5 also shows the value of ensilage cutters produced and sold, as reported to the Bureau of Census.

The number and value of silos, both produced and sold, which are also shown in Table 5, have remained practically constant.

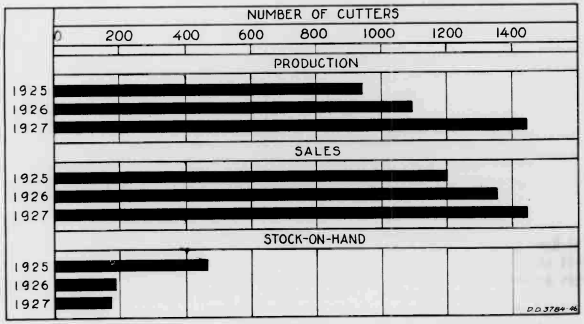
Relation of Production to Capacity.

Five of the six manufacturers covered by this survey reported an average capacity (or amount considered as a good yearly production) of 1,195 cutters per manufacturer per year. The sixth manufacturer did not furnish figures. As the average production per manufacturer per year of these five manufacturers was 635 cutters, their average production in the period 1925 to 1927 was 53 per cent of capacity. There was a huge spread among the five manufacturers in utilization of capacity, ranging from 4.2 to 87 per cent.

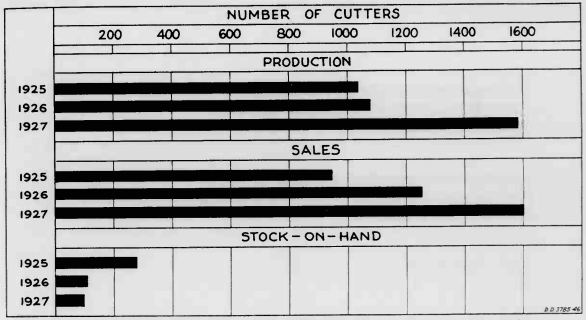
(a) However, the Census figure for sales in 1927 does not include exports. If export sales should be included, it is doubtful if total sales of the industry would show a decrease in 1927.



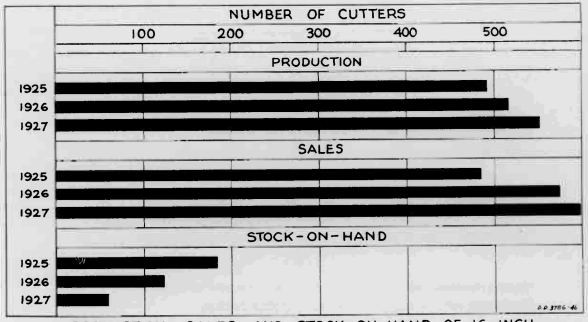
PRODUCTION, SALES, AND STOCK-ON-HAND OF ALL SIZES OF ENSILAGE CUTTERS, 1925, 1926, & 1927 *(Six manufacturers only)*
Fig. 1.



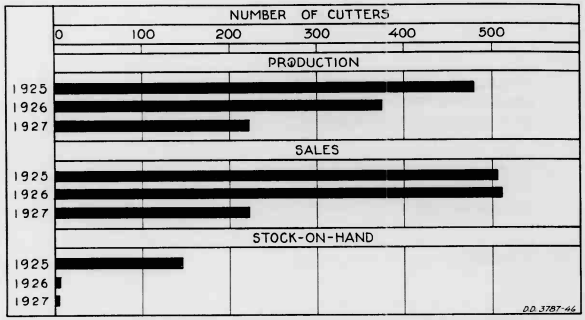
PRODUCTION, SALES, AND STOCK-ON-HAND OF 11-INCH ENSILAGE CUTTERS, 1925, 1926, & 1927 *(Six manufacturers only)*
Fig. 2.



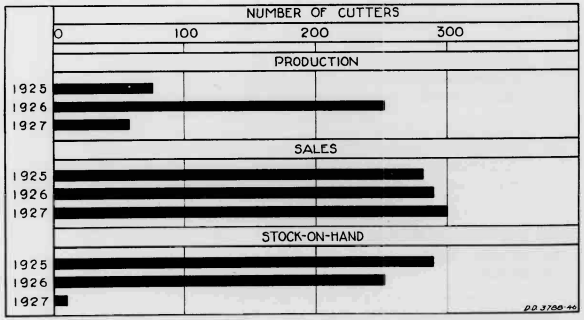
PRODUCTION, SALES, AND STOCK-ON-HAND OF 13-INCH ENSILAGE CUTTERS, 1925, 1926, AND 1927 *(Six manufacturers only)*
Fig. 3



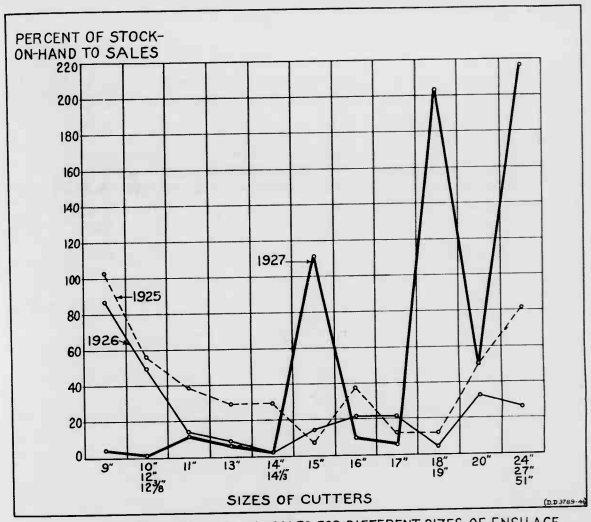
PRODUCTION, SALES, AND STOCK-ON-HAND OF 16-INCH ENSILAGE CUTTERS, 1925, 1926, AND 1927 *(Six manufacturers only)*
Fig. 4



PRODUCTION, SALES, AND STOCK-ON-HAND OF 14 & 14⅓-INCH ENSILAGE CUTTERS, 1925, 1926, & 1927 *(Six manufacturers only)*
Fig. 5



PRODUCTION, SALES, AND STOCK-ON-HAND OF 9-INCH ENSILAGE CUTTERS, 1925, 1926, & 1927 *(Six manufacturers only)*
Fig. 6



PERCENT OF STOCK-ON-HAND TO SALES, FOR DIFFERENT SIZES OF ENSILAGE CUTTERS, 1925-1926-1927. (SIX MANUFACTURERS ONLY)
FIG. 7

Table 1. - Production, Sales, and Stock on Hand of Ensilage Cutters, by Sizes, 1925, 1926 and 1927.

(Figures cover six manufacturers only)

Size in Inches.	Production			Sales (b)			Stock on Hand (end of year) (c)		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
	Number of Cutters.			Number of Cutters.			Number of Cutters.		
9	77	253	59	282	290	301	290	253	11
10,12,12-3/8 (a)	40	52	602	52	54	623	29	27	6
11	934	1,085	1,435	1,202	1,359	1,449	465	191	177
13	1,036	1,079	1,584	946	1,250	1,600	278	107	91
14,14-1/3 (a)	471	374	222	507	513	225	147	8	5
15	22	146	318	30	130	159	2	18	177
16	489	514	534	485	575	599	184	123	58
17	250	265	186	296	250	225	37	52	13
18,19 (a)	0	50	50	17	50	17	2	2	35
20	2	10	0	4	9	2	2	3	1
24,27,51 (a)	82	11	54	64	50	21	52	13	46
All Sizes	3,403	3,839	5,044	3,885	4,530	5,221	1,488	797	620

(a) Consolidated to prevent disclosing identity of individual manufacturers.
(b) For one manufacturer the sales year was October to September, and for another November to October.
(c) One manufacturer reported stock on hand as of the end of September, and two others as of the end of October.

Table 2. - Production, Sales, and Stock on Hand o. Ensilage Cutters, in 1926 and 1927, by Sizes, in Percentages of 1925 Figures.

(Figures cover six manufacturers only)

Size in Inches.	Production		Sales		Stock on Hand	
	1926	1927	1926	1927	1926	1927
	Per cent of 1925		Per cent of 1925		Per cent of 1925	
9	328	77	103	107	87	3.8
10,12,12-3/8 (a)	130	1,505	104	1,198	93	21
11	116	154	113	121	41	38
13	104	153	132	169	38	33
14,14-1/3 (a)	79	47	101	44	5.4	3.4
15	664	1,045	433	530	900	8,850
16	105	109	118	123	67	32
17	106	74	84	76	140	35
18,19 (a)	(b)	(b)	294	100	100	1,750
20	500	0	225	50	150	50
24,27,51 (a)	13	66	78	33	25	88
All Sizes	113	148	117	135	54	42

(a) Consolidated to prevent disclosing identity of individual manufacturers.
(b) Production in 1925 was zero.

Table 3. - Ratios of Production, Sales, and Stock on Hand of Ensilage Cutters to Each Other, by Sizes, 1925, 1926 and 1927.

(Figures cover six manufacturers only)

Size in Inches.	Ratio of Production to Sales.			Ratio of Stock on Hand to Production			Ratio of Stock on Hand to Sales.		
	1925	1926	1927	1925	1926	1927	1925	1926	1927
	Per Cent			Per Cent			Per Cent		
9	27	87	20	377	100	19	103	87	3.7
10,12,12-3/8 (a)	77	96	97	72	52	1.0	56	50	1.0
11	78	80	99	50	18	12	39	14	12
13	110	86	99	27	9.9	5.7	29	8.6	5.7
14,14-1/3 (a)	93	73	99	31	2.1	2.3	29	1.6	2.2
15	73	112	200	9.1	12	56	6.7	14	111
16	101	89	89	38	24	11	38	21	9.7
17	84	106	83	15	20	7.0	12	21	5.8
18,19 (a)	0	100	294	(b)	4	70	12	4	206
20	50	111	0	100	30	(b)	50	33	50
24,27,51 (a)	128	22	257	63	118	85	81	26	219
All Sizes	88	85	97	44	21	12	38	18	12

(a) Consolidated to prevent disclosing identity of individual manufacturers.
(b) Production was zero.

Table 4. - Distribution of Sales of Ensilage Cutters, by Sizes, in Percentages of Total Sales, 1925, 1926, and 1927, Arranged in Order of their Importance.

(Figures cover six manufacturers only)

Size in Inches.	1925	1926	1927	Average 3 years.
11	30.9	30.0	27.7	29.4
13	24.4	27.6	30.6	27.8
16	12.5	12.7	11.5	12.2
14,14-1/3 (a)	13.0	11.3	4.3	9.1
9	7.3	6.4	5.8	6.4
17	7.6	5.5	4.3	5.7
10,12,12-3/8 (a)	1.3	1.2	11.9	5.4
15	.8	2.9	3.0	2.3
24,27, 51 (a)	1.7	1.1	.5	1.0
18, 19 (a)	.4	1.1	.3	.6
20	.1	.2	.1	.1
All Sizes	100.0	100.0	100.0	100.0

(a) Consolidated to prevent disclosing identity of individual manufacturers.

Table 5. - Total Production and Sales of Ensilage Cutters and Silos in the United States, 1925, 1926, and 1927.

(Figures from Bureau of Census.)

Year	Establishments	Ensilage Cutters: Production		Sales	
	Number	Number	Value	Number	Value
1925	25	8,771	$ 1,973,524	8,901	$ 1,880,209
1926	26	8,857	2,054,244	8,737	2,046,316
1927	24	9,247	1,926,210	8,549[a]	1,823,375[a]

Year	Establishments	Silos: Production		Sales	
	Number	Number	Value	Number	Value
1925	34	5,779	$ 2,129,376	5,748	$ 2,144,375
1926	25	5,736	2,211,946	5,666	2,179,184
1927	23	5,807	2,270,707	5,737[a]	2,254,877[a]

(a) Does not include exports, figure for which was probably small.

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